

IN THE CLAIMS:

1. (Currently Amended) A method of encoding XML content, comprising the steps of:

generating content nodes for transmitting content information of a larger XML document tree; and

generating at least one structure node that is associated with a predetermined number of said content nodes and performs a sub-tree wrapper function that indicates a relationship of the at least one sub-tree with regard to other independent sub-trees having their own respective structure nodes so as to encode a structure of said at least one respective sub-tree independent of the relative to other sub-trees within a larger XML document tree and for indicating where said content nodes are positioned within at least one respective sub-tree ~~to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of the larger XML document tree without requiring receipt of the all the node information being received~~.

2. (Previously Presented) The method of claim 1, wherein said content nodes and said structure nodes are generated in accordance with a specified pseudo-code.

3. (Original) The method of claim 1, wherein said structure node includes a list of said content nodes.

4. (Previously Presented) The method of claim 1, wherein a text portion of said XML content is provided in real-time by a user operating a textual input device prior to being encoded into content nodes.

5. (Previously Presented) The method of claim 1, wherein a text portion of said XML content is provided in real time by a user operating a speech recognition system that converts speech to text prior to being encoded into content nodes.

6. (Currently Amended) A method of encoding an XML document, said XML document comprised of a plurality of nodes, said method comprising the steps of:

decomposing said XML document into ~~a plurality~~ groups of independent sub-trees of a larger XML document tree, each of said independent sub-trees including at least one structure node associated therewith; and

independently transmitting each group of ~~said~~ sub-trees with information indicating how said ~~sub-tree~~ group of sub-trees is positioned relative to other sub-trees within said larger XML document ~~to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of said larger XML document at a receiving end based on only the independently transmitted sub-trees that are received.~~

7. (Original) The method of claim 6, wherein said decomposing step is performed in accordance with a specified document template.

8. (Currently Amended) The method of claim 6, wherein said information indicating how each of said ~~sub-tree~~ groups of sub-trees is positioned within said larger XML document is transmitted in a structure node.

9. (Previously Presented) The method of claim 6, wherein a text portion of the nodes of said XML document is generated in real-time by a user operating a textual input device.

10. (Previously Presented) The method of claim 6, wherein a text portion of the nodes of said XML document is generated in real-time by a speech recognition system that converts input speech to text.

11. (Currently Amended) A method for transmitting an XML document as a continuous stream, comprising the steps of:

decomposing said XML document into ~~a plurality~~ groups of independent sub-trees of a larger XML document tree;

generating content nodes for transmitting content information included in said XML document; and

generating at least one structure node associated with each group of said independent sub-trees, said structure node identifying content nodes included in ~~said~~ and corresponding to a particular group of independent ~~sub-tree~~ sub-trees and indicating where ~~said the particular group of independent~~ sub-tree is ~~sub-trees~~ positioned relative to other groups of independent sub-trees within said larger XML document. ~~to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of said larger XML document at a receiving end based on only the independently transmitted sub-trees that are received~~

12. (Original) The method of claim 11, wherein said decomposing step is performed in accordance with a specified document template.

13. (Original) The method of claim 11, wherein said structure node includes a list of said content nodes.

14. (Original) The method of claim 11, wherein said XML content is generated in real-time by a user operating a textual input device.

15. (Previously Presented) The method of claim 11, wherein a text portion of said XML content is generated in real time by user-operating a textual input device.

16. (Currently Amended) A method for receiving a streamed XML document, said XML document including content nodes and structure nodes, said method comprising the steps of:

determining if each received node is a content node or a structure node ~~of~~
associated with a group of independent sub-tree sub-trees of a larger XML document;

processing said content nodes directly; and

recompiling at least some of the independent groups of sub-trees that
comprise said XML document from said content nodes by using information contained in
said structure node about a position of ~~said~~ a particular sub-tree of the larger XML
document relative to other sub-trees in at least one independent group. ~~by permitting~~
~~reconstruction in mid-transmission ranging from at least partial to complete~~
~~reconstruction of said larger XML document without receiving all of the nodes~~
~~comprising the larger XML document.~~

17. (Original) The method of claim 16, wherein said processing step further comprises the step of displaying said content.

18. (Original) The method of claim 16, wherein said processing step further comprises the step of storing said content.

19. (Previously Presented) The method of claim 16, further comprising the step of continuing to process subsequent nodes even if one of said nodes is not properly

received by an XML receiver, wherein each sub-tree from the XML document is parsed and validated by the XML receiver as though it were an independent tree.

20. (Currently Amended) A method of decoding a received XML document, said XML document comprised of a plurality of nodes, said method comprising the steps of:

receiving ~~a plurality~~ one or more independent groups of XML sub-trees, each group of said sub-trees including at least one structure node and indicating how said group sub-tree is positioned within said larger XML document relative to other groups of sub-trees ~~by permitting reconstruction in mid-transmission ranging from at least partial to complete reconstruction of said larger XML document without receiving all of the nodes comprising the larger XML document~~; and

positioning each independent group of ~~said~~ sub-trees in a larger XML document using said received position indication.

21. (Original) The method of claim 20, wherein said processing step further comprises the step of displaying said content.

22. (Original) The method of claim 20, wherein said processing step further comprises the step of storing said content.

23. (Currently Amended) An XML transmitter comprising:

a memory for storing XML content and computer readable code; and

a processor operatively coupled to said memory, said processor configured to:

generate content nodes for transmitting content information; and

generate at least one structure node that is associated with at least one respective sub-tree of said content nodes and performs a sub-tree wrapper function that indicates a relationship of the at least one sub-tree with regard to other independent sub-trees having their own respective structure nodes and for indicating where said content nodes are positioned in the at least one respective sub-tree within a larger XML document tree ~~to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of the larger XML document at a receiving end.~~

24. (Currently Amended) An XML transmitter comprising:

a memory for storing XML content and computer readable code; and

a processor operatively coupled to said memory, said processor configured to:

decompose said XML document into a ~~plurality~~ independent groups of sub-trees, each group of ~~said~~ sub-trees including at least one node; and

independently transmit each ~~of said~~ group of sub-trees with information indicating how ~~said sub-tree~~ each group is positioned within said larger XML document ~~document to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of the larger XML document at the receiving end.~~

25. (Currently Amended) An XML transmitter comprising:

a memory for storing XML content and computer readable code; and

a processor operatively coupled to said memory, said processor configured to:

decompose said XML document into ~~a plurality~~ **independent groups** of sub-trees;

generate content nodes for transmitting content information included in said XML document; and

generate at least one structure node for each **group** of ~~said~~ sub-trees, said structure nodes associated with one or more of the content nodes for identifying at a receiving end content nodes included in ~~said a~~ corresponding **group of sub-tree sub-trees** and indicating where ~~said each~~ sub-tree **group** is positioned relative to other **groups of** sub-trees within said larger XML document ~~without requiring all of the content nodes being received to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of the larger XML document at the receiving end.~~

26. (Currently Amended) An XML receiver for receiving a streamed XML document, said XML document including content nodes and structure nodes, comprising:

a memory for storing computer readable code; and

a processor operatively coupled to said memory, said processor configured to:

determine if each received node is a content node or a structure node,

if said received node is a content node, determining whether said content node is associated with a particular structure node, and

if said received node is a structure node, determining a position of an independent a sub-tree of the structure node relative to other independent sub-trees that are unassociated with the structure node;

process said content nodes directly; and

recompile ~~to permit reconstruction~~ by reconstructing in mid-transmission ~~ranging from~~ at least ~~partial to complete reconstruction~~ some of the independent sub-trees of the larger XML document tree at a receiving end without receipt of all of the nodes.

1
said XML document from said content nodes using information contained in said structure node.

27. (Currently Amended) An XML receiver for receiving a streamed XML document, said XML document including content nodes and structure nodes, comprising:

a memory for storing computer readable code; and

a processor operatively coupled to said memory, said processor configured to:

receive a ~~plurality~~ group of XML independent sub-trees, each group of said sub-trees including at least one structure node associated with one or more content nodes, said structure node indicating how said sub-tree is positioned relative to other sub-trees within said larger XML document; and

position at least some groups of each of said sub-trees in a larger XML document tree using said position ~~indication to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of the XML document~~ without receiving all of the nodes transmitted.